In the Claims

1. (Amended) A method for controlling distribution of refrigerant among a plurality of refrigerators comprising:

determining an available quantity of the refrigerant;

determining a demand of the refrigerant by each of the plurality of refrigerators;

aggregating the demand from the refrigerators;

determining, for each of the refrigerators, an allocation of the refrigerant based on the availability of the refrigerant, the aggregated demand and the individual needs of the refrigerators, the allocation computed as a portion of the determined available quantity;

distributing the refrigerant to the refrigerators based on the determined allocation; and

redistributing the refrigerant over time by redetermining the allocation of the refrigerant.

19. (Amended) The method of claim 15 wherein a distribution per hierarchy state is indicative of selectively diverting the refrigerant away from refrigerators according to a predetermined order based on the importance of each of the refrigerators.

56. (Amended) A method of delivering helium to a plurality of cryogenic refrigerators connected to a common refrigerant source comprising:

sensing at least one operating parameter indicative of the operating status of each cryogenic refrigerator;

computing, at a controller, from the at least one parameter and a helium supply, an allocation signal indicative of an allocation of refrigerant computed as a portion of a determined helium supply, the allocation signal computed in response to a computed helium consumption; and

controlling a drive motor connected to each of the cryogenic refrigerators to regulate the helium consumed by the cryogenic refrigerator according to the allocation signal.